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Long-term multiwavelength studies of high-redshift blazar 0836+710

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Abstract

Aims. The observation of γ-ray flares from blazar 0836+710 in 2011, following a period of quiescence, offered an opportunity to study correlated activity at different wavelengths for a high-redshift (z = 2.218) active galactic nucleus. Methods. Optical and radio monitoring, plus Fermi-LAT γ-ray monitoring provided 2008-2012 coverage, while Swift offered auxiliary optical, ultraviolet, and X-ray information. Other contemporaneous observations were used to construct a broad-band spectral energy distribution. Results. There is evidence of correlation but not a measurable lag between the optical and γ-ray flaring emission. In contrast, there is no clear correlation between radio and γ-ray activity, indicating radio emission regions that are unrelated to the parts of the jet that produce the γ rays. The γ-ray energy spectrum is unusual in showing a change of shape from a power law to a curved spectrum when going from the quiescent state to the active state. © ESO, 2013.

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Keywords

Galaxies: active, Gamma rays: galaxies, Quasars: individual: 0836+710